

PATENT COOPERATION TREATY

10/532852

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

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JapanDate of mailing
(day/month/year)

14.12.2004

Applicant's or agent's file reference

R04158PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/013865

International filing date (day/month/year)

15.09.2004

Priority date (day/month/year)

17.09.2003

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. B65H 5/02

Applicant

RICOH COMPANY, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/013865

Box No. I

Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
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International application No.

PCT/JP2004/ 013865

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-28</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>2, 16</u>	YES
	Claims	<u>1, 3-15, 17-28</u>	NO
Industrial applicability (IA)	Claims	<u>1-28</u>	YES
	Claims	_____	NO

2. Citations and explanations

The following document has been considered for the purpose of this report:

D1 = JP 64-48457 U(RICOH COMPANY, LTD.)24.03.1989, Figs 1,2

D2 = JP 4-169440 A(RICOH COMPANY, LTD.)17.06.1992, Figs 1-3

D3 = JP 3-73541 U(RICOH COMPANY, LTD.)24.07.1991, Figs 1,2,4-6

D4 = JP 2002-193471 A(CANON COMPANY, LTD.)10.07.2002, paragraph 31,36, Figs 7

D5 = JP 5-306037 A(RICOH COMPANY, LTD.)19.11.1993, paragraph 47,48, Figs 4

D6 = JP 59-11838 U(FUJI XEROX COMPANY, LTD.)25.01.1984, Figs 5-8

The subject matter of claim 1,3-15,17-28 does not involve an inventive step over D1,D2,D3,D4,D5 and D6.

The inventions disclosed in D1 and D2 or D3 share the problem in that deflection of the conveyance belt. The person skilled in the art would easily conceive the idea of applying the technical feature forming a bead on an inner side of belt employed in D2 or D3 to the invention disclosed in D1 to solve that problem compatibly.

The technical feature forming a groove on a surface of the drive roller is disclosed in D3(see Figs 1,2,4-6).

The technical feature that a coefficient of friction between an end of portion of the roller and the bead is set smaller than a coefficient of friction of a center portion of the roller and the bead is disclosed in D4(see paragraph 36, Figs 7).

The skilled person in the art would easily conceive the idea of also in an unoperated state, making a non-tapered portion of the end surface to overlap a side surface of the bead.

The technical feature that an outer diameter of the second rotational member is within a range of +/- 1.0 mm of an outer diameter of the first rotational member is disclosed in D5(see paragraph 47,48, Figs 4).

The technical feature that a taper angle of the taper with respect to the end surface of the roller is set in a range from 10 degrees to 45 degrees is disclosed in D2(see Figs 1-3).

In D1, the axis of the driven roller can be inclined with respect to the axis of the drive roller.

The technical feature that a frictional force in the thrust direction between the driven roller support means and the driven roller is smaller than a frictional force of the driven roller and the conveyance belt is disclosed in D1.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Box No. V**

The technical feature that a coefficient of friction between the drive roller and the conveyance belt is greater than a coefficient of friction between the driven roller and the conveyance belt is disclosed in D4(see paragraph 32).

The technical feature comprising pressing means for pressing the conveyance belt to the drive roller is disclosed in D6(see Figs 5-8).

The technical feature applying for an image forming apparatus is disclosed in D2, D3.

The subject matter of claim 2,16 is neither disclosed in any of the documents nor obvious to a person skilled in the art.